

#10



PCT10

RAW SEQUENCE LISTING DATE: 08/19/2002
 PATENT APPLICATION: US/10/069,527 TIME: 15:30:16

Input Set : A:\Subst Seq List.txt
 Output Set: N:\CRF4\08192002\J069527.raw

3 <110> APPLICANT: The Horticulture and Food Research Institute of NZ
 5 <120> TITLE OF INVENTION: Seedless Fruit Production
 7 <130> FILE REFERENCE: 26329 MRB
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/069,527
 C--> 10 <141> CURRENT FILING DATE: 2002-06-27
 12 <150> PRIOR APPLICATION NUMBER: N2337688
 13 <151> PRIOR FILING DATE: 1999-09-07
 15 <160> NUMBER OF SEQ ID NOS: 7
 17 <170> SOFTWARE: PatentIn Ver. 2.1
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 868
 21 <212> TYPE: DNA
 22 <213> ORGANISM: Malus domestica
 24 <220> FEATURE:
 25 <221> NAME/KEY: CDS
 26 <222> LOCATION: (1)...(468)
 28 <400> SEQUENCE: 1
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 31 1 5 10 15
 33 agg cag gtg acc tac tcc aag agg aat ggg att atc aag aag gca 96
 34 Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Ile Ile Lys Lys Ala
 35 20 25 30
 37 aag gag atc act gtt cta tgt gat gtc aaa gta tct ctt atc att tat 144
 38 Lys Glu Ile Thr Val Leu Cys Asp Ala Lys Val Ser Leu Ile Ile Tyr
 39 35 40 45
 41 tct agc tct ggg aag atg gtt gaa tac tgc agc cct tca act acg ctg 192
 42 Ser Ser Ser Gly Lys Met Val Glu Tyr Cys Ser Pro Ser Thr Thr Leu
 43 50 55 60
 45 aca gaa atc ttg gac aac tac cat gga caa tct ggg aag aag ttg tgg 240
 46 Thr Glu Ile Leu Asp Lys Tyr His Gly Gln Ser Gly Lys Lys Leu Trp
 47 65 70 75 80
 49 gat gct aag cat gag aac ctc agc aat gaa gtg gat aga gtc aag aaa 288
 50 Asp Ala Lys His Glu Asn Leu Ser Asn Glu Val Asp Arg Val Lys Lys
 51 85 90 95
 53 gac aat gac agc atg caa gta gag ctc agg cat ctg aag gga gag gat 336
 54 Asp Asn Asp Ser Met Gln Val Glu Leu Arg His Leu Lys Gly Glu Asp
 55 100 105 110
 57 atc aca tca ttg aac cat gta gag ctg atg gcc tta gag gaa gca ctt 384
 58 Ile Thr Ser Leu Asn His Val Glu Leu Met Ala Leu Glu Ala Leu
 59 115 120 125
 61 gaa aat ggc ctt aca agt atc cgg gac aag cag tcc aag ttc gtc gac 432
 - 62 Glu Asn Gly Leu Thr Ser Ile Arg Asp Lys Gln Ser Lys Phe Val Asp

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|-----|--|-----|-----|-----|
| 63 | 130 | 135 | 140 | |
| 65 | atg atg aga gac aat gga aag gca ctg gaa gat gag aat aag cgc ctc | | | 480 |
| 66 | Met Met Arg Asp Asn Gly Lys Ala Leu Glu Asp Glu Asn Lys Arg Leu | | | |
| 67 | 145 | 150 | 155 | 160 |
| 69 | act tat gag ctg caa aaa caa cag gag atg aaa ata aaa gag aat gtg | | | 528 |
| 70 | Thr Tyr Glu Leu Gln Lys Gln Glu Met Lys Ile Lys Glu Asn Val | | | |
| 71 | 165 | 170 | 175 | |
| 73 | aga aac atg gaa aat ggg tat cat cag agg cag ctg ggg aac tac aac | | | 576 |
| 74 | Arg Asn Met Glu Asn Gly Tyr His Gln Arg Gln Leu Glu Asn Tyr Asn | | | |
| 75 | 180 | 185 | 190 | |
| 77 | aac aac cag cag cag ata cct ttt gcc ttc cgc gtg cag cct att cag | | | 624 |
| 78 | Asn Asn Gln Gln Ile Pro Phe Ala Phe Arg Val Gln Pro Ile Gln | | | |
| 79 | 195 | 200 | 205 | |
| 81 | cca aat ctc cag gag aga atc taa tttagatataat cttagatttg catgtcttt | | | 678 |
| 82 | Pro Asn Leu Gln Glu Arg Ile | | | |
| 83 | 210 | 215 | | |
| 85 | ctaactagtatatttatctccacaccttc tctctctttt catctgtcaa ggagttctta | | | 738 |
| 87 | agttttatgtc agatttccaa tggtttgtaa tggaaattagc ttccgtatga ggctttgtt | | | 798 |
| 89 | tgaacccttgt aataataag gcgtgcattga actcggtttggggaaaaaaa aaaaaaaaaa | | | 858 |
| 91 | aaaaaaaaaa | | | 868 |
| 94 | <210> SEQ ID NO: 2 | | | |
| 95 | <211> LENGTH: 215 | | | |
| 96 | <212> TYPE: PRT | | | |
| 97 | <213> ORGANISM: Malus domestica | | | |
| 99 | <400> SEQUENCE: 2 | | | |
| 100 | Met Gly Arg Gly Lys Val Glu Ile Lys Arg Ile Glu Asn Ser Ser Asn | | | |
| 101 | 1 | 5 | 10 | 15 |
| 102 | Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Ile Ile Lys Lys Ala | | | |
| 103 | 20 | 25 | 30 | |
| 104 | Lys Glu Ile Thr Val Leu Cys Asp Ala Lys Val Ser Leu Ile Ile Tyr | | | |
| 105 | 35 | 40 | 45 | |
| 106 | Ser Ser Ser Gly Lys Met Val Glu Tyr Cys Ser Pro Ser Thr Thr Leu | | | |
| 107 | 50 | 55 | 60 | |
| 108 | Thr Glu Ile Leu Asp Lys Tyr His Gly Gln Ser Gly Lys Lys Leu Trp | | | |
| 109 | 65 | 70 | 75 | 80 |
| 110 | Asp Ala Lys His Glu Asn Leu Ser Asn Glu Val Asp Arg Val Lys Lys | | | |
| 111 | 85 | 90 | 95 | |
| 112 | Asp Asn Asp Ser Met Gln Val Glu Leu Arg His Leu Lys Gly Glu Asp | | | |
| 113 | 100 | 105 | 110 | |
| 114 | Ile Thr Ser Leu Asn His Val Glu Leu Met Ala Leu Glu Glu Ala Leu | | | |
| 115 | 115 | 120 | 125 | |
| 116 | Glu Asn Gly Leu Thr Ser Ile Arg Asp Lys Gln Ser Lys Phe Val Asp | | | |
| 117 | 130 | 135 | 140 | |
| 118 | Met Met Arg Asp Asn Gly Lys Ala Leu Glu Asp Glu Asn Lys Arg Leu | | | |
| 119 | 145 | 150 | 155 | 160 |
| 120 | Thr Tyr Glu Leu Gln Lys Gln Glu Met Lys Ile Lys Glu Asn Val | | | |
| 121 | 165 | 170 | 175 | |
| 122 | Arg Asn Met Glu Asn Gly Tyr His Gln Arg Gln Leu Glu Asn Tyr Asn | | | |
| 123 | 180 | 185 | 190 | |

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124 Asn Asn Gln Gln Gln Ile Pro Phe Ala Phe Arg Val Gln Pro Ile Gln
125 195 200 205
126 Pro Asn Leu Gln Glu Arg Ile
127 210 215
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133 <212> TYPE: DNA
134 <213> ORGANISM: Malus domestica
135 <220> FEATURE:
137 <221> NAME/KEY: CDS
138 <222> LOCATION: (1)..(699)
140 <400> SEQUENCE: 3
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142 Met Ala Arg Gly Lys Ile Glu Ile Lys Leu Ile Glu Asn Gln Thr Asn
143 1 5 10 15
145 agg gag gtg acc tac tcc aag aga aat ggg atc ttc aag aag gct 96
146 Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Ile Phe Lys Lys Ala
147 20 25 30
149 gag gag ctc acc gtt ctc tgt gat gcc aag gtc tcc ctc att atg ctc 144
150 Gln Glu Leu Thr Val Leu Cys Asp Ala Lys Val Ser Leu Ile Met Leu
151 35 40 45
153 tcc aac act aat aaa atg cac gag tat atc agc cct acc act acg acc 192
154 Ser Asn Thr Asn Lys Met His Glu Tyr Ile Ser Pro Thr Thr Thr
155 50 55 60
157 aag agt atg tat tat gat gac tat cag aaa act atg ggg atc gat ctg tgg 240
158 Lys Ser Met Tyr Asp Asp Tyr Gln Lys Thr Met Gly Ile Asp Leu Trp
159 65 70 75 80
161 agg aca cac gag gag tcg atg aaa gac acc ttg tgg aag ttg aaa gag 288
162 Arg Thr His Glu Glu Ser Met Lys Asp Thr Leu Trp Lys Leu Lys Glu
163 85 90 95
165 atc aac aat aag ctg agg aga gag atc agg cag agg ttg ggc cat gat 336
166 Ile Asn Asn Lys Leu Arg Arg Glu Ile Arg Gln Arg Leu Gly His Asp
167 100 105 110
169 cta aat ggc ctg aca ttt gac gag ctg gtc tct ctt gac gat gag atg 384
170 Leu Asn Gly Leu Ser Phe Asp Glu Leu Ala Ser Leu Asp Asp Glu Met
171 115 120 125
173 cag tct tcc ttg gat gcc ata cgt caa agg aag tac cat gtg atc aaa 432
174 Gln Ser Ser Leu Asp Ala Ile Arg Gln Arg Lys Tyr His Val Ile Lys
175 130 135 140
177 act cag acg gag acc acc aag aag gtt aag aac ttg gag caa aga 480
178 Thr Gln Thr Glu Thr Lys Lys Val Lys Asn Leu Glu Gln Arg
179 145 150 155 160
181 aga gga aac atg ctg cat ggc tat ttt gac cag gaa gca gcc ggc gag 528
182 Arg Gly Asn Met Leu His Gly Tyr Phe Asp Gln Glu Ala Ala Gly Glu
183 165 170 175
185 gat cca cag tat ggt tat gag gac aat gag gga gac tac gaa ttt gca 576
186 Asp Pro Gln Tyr Gly Tyr Glu Asp Asn Glu Gly Asp Tyr Glu Ser Ala
187 180 185 190
189 ctt gca ttg tca aat ggg gcg aat aac ttg tac act ttc cac ctc cac 624

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190 Leu Ala Leu Ser Asn Gly Ala Asn Asn Leu Tyr Thr Phe His Leu His
 191 195 200 205
 193 cac cct aac ctc cac cac gga gga agc tcg ctc ggc tcc tcc att act 672
 194 His Pro Asn Leu His His Gly Ser Ser Leu Gly Ser Ser Ile Thr
 195 210 215 220
 197 cat ctg cac gat ctc cgc ctt gct tga tcgtgatctg agatatgatt 719
 198 His Leu His Asp Leu Arg Leu Ala
 199 225 230
 201 aatcatcaact aagttatata ttaaggctac ttataactgc ttttgcctca aagtgtttgc 779
 203 ttggtgacta tcttttaggca aggagtttgc ctggactac ctctggaaac agatgtctaa 839
 205 atatgtgtgt ggtgttttaa tcaatgtatag cactaaaaaa atccgcgcc ttgtgtctg 899
 207 tgggtttgt tgatataatc atacttctat tctatataata tcatggcaga cattgtttt 959
 209 gataaaaaaa aaaaaaaaaaaa aaa 982
 212 <210> SEQ ID NO: 4
 213 <211> LENGTH: 232
 214 <212> TYPE: PRT
 215 <213> ORGANISM: Malus domestica
 217 <400> SEQUENCE: 4
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 219 1 5 10 15
 220 Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Ile Phe Lys Lys Ala
 221 20 25 30
 222 Gln Glu Leu Thr Val Leu Cys Asp Ala Lys Val Ser Leu Ile Met Leu
 223 35 40 45
 224 Ser Asn Thr Asn Lys Met His Glu Tyr Ile Ser Pro Thr Thr Thr
 225 50 55 60
 226 Lys Ser Met Tyr Asp Asp Tyr Gln Lys Thr Met Gly Ile Asp Leu Trp
 227 65 70 75 80
 228 Arg Thr His Glu Ser Met Lys Asp Thr Leu Trp Lys Leu Lys Glu
 229 85 90 95
 230 Ile Asn Asn Lys Leu Arg Arg Glu Ile Arg Gln Arg Leu Gly His Asp
 231 100 105 110
 232 Leu Asn Gly Leu Ser Phe Asp Glu Leu Ala Ser Leu Asp Asp Glu Met
 233 115 120 125
 234 Gln Ser Ser Leu Asp Ala Ile Arg Gln Arg Lys Tyr His Val Ile Lys
 235 130 135 140
 236 Thr Gln Thr Glu Thr Lys Lys Lys Val Lys Asn Leu Glu Gln Arg
 237 145 150 155 160
 238 Arg Gly Asn Met Leu His Gly Tyr Phe Asp Gln Glu Ala Ala Gly Glu
 239 165 170 175
 240 Asp Pro Gln Tyr Gly Tyr Glu Asp Asn Glu Gly Asp Tyr Glu Ser Ala
 241 180 185 190
 242 Leu Ala Leu Ser Asn Gly Ala Asn Asn Leu Tyr Thr Phe His Leu His
 243 195 200 205
 244 His Pro Asn Leu His His Gly Ser Ser Leu Gly Ser Ser Ile Thr
 245 210 215 220
 246 His Leu His Asp Leu Arg Leu Ala
 247 225 230
 251 <210> SEQ ID NO: 5

RAW SEQUENCE LISTING

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Input Set : A:\Subst Seq List.txt

Output Set: N:\CRF4\08192002\J069527.raw

252 <211> LENGTH: 25
253 <212> TYPE: DNA
254 <213> ORGANISM: Artificial Sequence
255 <220> FEATURE:
257 <223> OTHER INFORMATION: Description of Artificial Sequence: Made in lab
259 <220> FEATURE:
260 <221> NAME/KEY: allele /
261 <222> LOCATION: (14) /
262 <223> OTHER INFORMATION: n represents a, c, g, or t.
264 <220> FEATURE:
265 <221> NAME/KEY: allele /
266 <222> LOCATION: (17)
267 <223> OTHER INFORMATION: n represents a, c, g, or t.
269 <220> FEATURE:
270 <221> NAME/KEY: allele /
271 <222> LOCATION: (20)
272 <223> OTHER INFORMATION: n represents a, c, g, or t.
274 <400> SEQUENCE: 5
275 cggaattcat gggnnmnggn aarrt 25
277 <210> SEQ ID NO: 6
278 <211> LENGTH: 30
279 <212> TYPE: DNA
280 <213> ORGANISM: Artificial Sequence
282 <220> FEATURE:
283 <223> OTHER INFORMATION: Description of Artificial Sequence: Made in lab
285 <220> FEATURE:
286 <221> NAME/KEY: allele
287 <222> LOCATION: (19)
288 <223> OTHER INFORMATION: n represents a, c, g, or t.
290 <220> FEATURE:
291 <221> NAME/KEY: allele
292 <222> LOCATION: (22)
293 <223> OTHER INFORMATION: n represents a, c, g, or t.
295 <220> FEATURE:
296 <221> NAME/KEY: allele
297 <222> LOCATION: (28)
298 <223> OTHER INFORMATION: n represents a, c, g, or t.
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301 cgcttcgaggag tcccgytgna tnnggytgna 30
304 <210> SEQ ID NO: 7
305 <211> LENGTH: 20
306 <212> TYPE: DNA
307 <213> ORGANISM: Artificial Sequence
309 <220> FEATURE:
310 <223> OTHER INFORMATION: Description of Artificial Sequence: Made in lab
312 <400> SEQUENCE: 7
313 gagagagaac tagtctcgag 20

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; N Pos. 14,17,20
Seq#:6; N Pos. 19,22,28